

## REMARKS

In the Office Action dated September 23, 2004, Claims 1, 3-9 and 11-12 are under examination. Claims 13-33 are withdrawn from consideration.

This Response addresses each of the Examiner's rejections set forth in the Office Action. In particular, Applicants respectfully submit that in an effort to favorably advance prosecution, claim 1 has been amended to define at least one of said binding partners is *a nucleic acid molecule* and is immobilized on a substrate. Claim 34 is added to define a binding partner of the immobilized nucleic acid as comprising a dye. Ample support for these amendments is found in the specification, e.g., at page 8, lines 24-28; page 16, lines 26-28; page 19, lines 16-26; page 21, lines 14-25; and page 22, lines 5-15. Applicants reserve the right to pursue subject matter encompassed by the claims as originally filed in a continuation application. Claims 13-33, drawn to non-elected subject matter, are canceled. Applicants reserve the right to pursue the non-elected subject matter in a divisional application.

In view of the instant amendment and the following remarks, Applicants respectfully submit that the present application is in condition for allowance. Favorable consideration of all pending claims is therefore respectfully requested.

Claims 1, 3-9 and 11-12 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite. Specifically, the Examiner contends that the recitation in claim 1, "contacting the binding partners before, during or after said partners have formed a binding partnership", is confusing.

In response, Applicants have deleted the objectionable recitation from claim 1. It is respectfully submitted that the claims, as presently recited, are not indefinite. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is therefore respectfully requested.

Claims 1, 3, 4, 7 and 11 are rejected under 35 U.S.C. §102(a) as allegedly anticipated by Omura et al. (Annual Meeting of Soc. Chem. Eng., March 25, 1999). According to the Examiner, Omura et al. teach a method of detecting an environmental toxicant by analyzing the binding between an immobilized estrogen receptor on plastic beads and fluorescence-labeled BSA.

Applicants submit that a rejection of a claim under 35 U.S.C. §102 requires that the single prior art reference disclose every element of the claim. Kloster Speedsteel AB v Crucible Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986). In the present case, Omura et al. do not teach a method of detecting a toxicant by detecting the dissociation or inhibition of binding between *a nucleic acid molecule* and a binding partner, as presently recited in the claims. Therefore, Applicants respectfully submit that Omura et al. do not anticipate the claimed invention. Withdrawal of the rejection of claims 1, 3, 4, 7 and 11 under 35 U.S.C. §102(a) based on Omura et al., is therefore respectfully requested.

Claims 1, 3-7 and 11 are rejected under 35 U.S.C. §102(e) as allegedly anticipated by Wu et al. (U.S. Patent 6,207,391).

According to the Examiner, Wu et al. teach an assay for screening compounds that modulate protein-receptor binding. The Examiner contends that Wu et al. also teach immobilizing a binding partner to a solid support, i.e. polystyrene (Col. 15, line 53-55). The Examiner also states that Wu et al. teach that the binding partners include proteins, receptors, enzymes, and substrates of enzymes.

Applicants respectfully submit that Wu et al. fail to teach a method of detecting a toxicant based on detecting the dissociation or inhibition of binding between *a nucleic acid molecule* and a binding partner, as presently recited in the claims. Because Wu et al. fail to teach

every element of the claimed invention, Wu et al. do not anticipate the present claims.

Withdrawal of the rejection of claims 1, 3-7 and 11 under 35 U.S.C. §102(e) based on Wu et al., is therefore respectfully requested.

Claims 1, 3-7, 11 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Pierce (J. Occupational Med. 1986 Vol. 28, page 589) in view of Ngo et al. (U.S. Patent 4,977,077).

It is the Examiner's opinion that Pierce teaches a method of detecting environmental contaminants based on enzyme-mediated immunoassays. The Examiner admits that Pierce does not teach specifically immobilizing a binding partner, e.g. antibody, on a solid support. However, the Examiner contends that Ngo et al. teach a similar method of detecting an analyte in a sample by immobilizing an antibody on a solid support, which provides increased sensitivity. The Examiner therefore concludes that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the claimed invention based on the combined teachings of Pierce and Ngo et al.

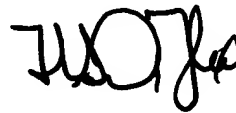
Applicants respectfully submit that neither Pierce nor Ngo et al. teach or suggest detecting a toxicant based on binding assays that involve *a nucleic acid molecule*, as presently claimed. In addition, Pierce teaches immunoassays based on binding to an antibody, and Ngo et al. teach immobilizing an antibody on a solid support. The cited references do not provide any motivation to those skilled in the art to immobilize a nucleic acid molecule on a support, as presently claimed. Therefore, it is respectfully submitted that the present claims are not obvious in view of the combined teaching of Pierce and Ngo et al. Withdrawal of the rejection under 35 U.S.C. §103(a) based on the combination of Pierce and Ngo et al., is therefore respectfully requested.

Claims 8-9 and 12 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Omura et al. in view of Kekic et al. (Electrophoresis 1999 20: 2053) and Ngo et al.

Although Applicants disagree with the Examiner's rejection, the rejection is moot in view of cancellation of claims 8-9 and 12. Applicants reserve the right to pursue the subject matter embodied in these claims in a continuation application. Withdrawal of the rejection of claims 8-9 and 12 is therefore respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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